

US Serial No. 10/519777  
Page 6 of 13

Remarks:

*Regarding the status of the claims:*

The currently presented claims in part repeat the claims proposed by the applicant and filed in the *Amendment after Final Rejection*, dated 10.Apr.2006. However, the applicant understands from the Examiner's *Advisory Action* of 12.May.2006 that these have not been entered. Thus, the currently presented claims, are amended based on the most recent set of claims which had been entered, namely in the *Amendment* filed 25.Nov.2995 and the currently presented claims are believed to be properly submitted and, these will be currently entered as being a "submission" in support of the filing of the *Request for Continued Examination*.

*Regarding the rejection of claims 3, 5, 6, 7, and 8 under 35 USC 112, 2<sup>nd</sup> paragraph:*  
The applicant enters amendments to the claims which are believed to fully address and overcome the grounds upon which the Examiner's rejection is based.

Reconsideration of the propriety of the rejection of the aforementioned claims, and withdrawal of the rejection is solicited.

*Regarding the rejection of claims 1-2, 4, 11, 12, 14-18 under 35 USC 102(b) in view of US 5644866 to Katsuda;*

The applicant traverses the rejection of the claims in view of the Katsuda reference, particularly in light of the amended claims presented in this paper.

Whereas the Examiner indicates that the Katsuda reference discloses "... a heating device comprising a laminar of polymer resin film material having thin film characteristics applied to laminars of insulating material, a rechargeable battery and a wick having a heating means attached in proximity to the wick..." the applicant believes that the presently amended claims are patentably distinguishable over the Katsuda reference.

US Serial No. 10/519777  
Page 7 of 13

A skilled artisan reviewing the Katsuda device would be taught that Katsuda's heating means is limited to an "organic PTC" consisting of a mixture of thermoplastic polyolefin resin and carbon. The same skilled artisan reviewing Katsuda's would understand that Katsuda cites as his discovery the use of carbon-based *instead of* known-art inorganic-material-based PTC materials in the production of a heating means which would operate from storage batteries at between 2-7 volts, and which would produce a surface temperature in the range of 90-130°C; such carbon-based PCT materials would be useful as a heating means to volatilize certain insecticide compositions particularly those including those based on pyrethroids.

Katsuda generally fails to disclose other forms of positive temperature coefficient thermistors, and it is fair to say that the Katsuda disclosure is properly limited in its scope to only what is actually disclosed as would be understood by a skilled artisan. Specifically Katsuda's disclosure is properly limited to what he actually discloses and depicts, namely the embodiments of Figure 3 and Figure 4. Katsuda makes no provision for the use of resistance wires, nor conductive inks nor layers of one or both of these material in his PCT heaters, as is now presently claimed by the applicant in their invention. Rather, Katsuda limits his invention to what is demonstrated, namely carbon-based PCT heaters which comprise a polymer/carbon based element in contact with two copper electrode plates which are in turn encased in an insulator material such as a flame-retardant polyester on at least both sides thereof. See Katsuda, col. 3, lines 2-6; see also Figs. 3 and 4. Katsuda provides no other description of other embodiments of his PCT heaters which may be used.

With regard to the Examiner's grounds of rejection under 35 USC §102(b), that statute holds in relevant part that a person shall be entitled to a patent unless "the invention was ... in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States." Unpatentability based on "anticipation" requires that the invention is not in fact new. See *Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 299, 302, 36 USPQ2d 1101, 1103 (Fed. Cir. 1995) ("lack of

US Serial No. 10/519777  
Page 8 of 13

novelty (often called 'anticipation') requires that the same invention, including each element and limitation of the claims, was known or used by others before it was invented by the patentee"). Anticipation requires that a single reference describe the claimed invention with sufficient precision and detail to establish that the subject matter existed in the prior art. See, *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990).

It is the present applicants' position that this standard has not been met. As noted, Katsuda makes no provision for the use of resistance wires, nor conductive inks nor layers of one or both of these materials in his PCT heaters, as is now presently claimed by the applicant in their invention. Indeed, with respect to the currently presented claims, the nature of the flexible film heater has been more narrowly defined than has been previously presented. Additionally it is not to be overlooked that the applicant's heaters are flexible, and in certain preferred embodiments are sufficiently flexible that they may assume a spiral shaped form. As Katsuda fails to disclose "each element and limitation of the claims" which is required in order to maintain a proper rejection under 35 USC §102(b). Accordingly reconsideration of the propriety of the outstanding rejection and its withdrawal is solicited.

*Regarding the rejection of claims 9, 13 and 19-22 under 35 USC 103(a) ) in view of US 5644866 to Katsuda:*

The applicant traverses the rejection of the claims in view of the Katsuda reference, particularly in light of the amended claims presented in this paper.

For the sake of brevity, the applicant repeats and incorporates by reference their remarks made above with respect to their rebuttal of the 35 USC §102(b) rejection as being applicable to the present grounds of rejection.

Whereas the Examiner asserts that the subject matter of (prior) claims 9, 13 and 19-26 would be obvious under 35 USC 103(a), the applicant emphatically disagrees.

US Serial No. 10/519777  
Page 9 of 13

First the applicant points out that claim 1 has been amended and is believed to be allowable over the prior art of record. The scope of the definition of the flexible film heater requires that it be flexible, and that it also include a layer of a resistive material which is formed from one or more layers of an electrically conductive, resistive ink or resistance wire. Neither of these features are disclosed by Katsuda, and such features are nonobvious thereover. Claims 9, 13 and 19-26 all ultimately depend from claim 1 and are thus also believed to be allowably as inheriting the limitations of the independent claim.

Secondly the applicant traverses the Examiner's rejection of these claims.

The Examiner is respectfully reminded that with regard to any rejection based on obviousness under 35 USC §103(b), MPEP section 2143 states that three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. See, *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); *In re Rouffer*, 149 F.3d 1350, 1355-56 [47 USPQ2d 1453] (Fed. Cir. 1998).

With respect to applicant's present claim 9, a review of the entirety of the Katsuda reference reveals nothing to the skilled artisan concerning the thickness of Katsuda's "radiation plate (3)" or "organic PTC (4)" other than the depictions of Katsuda's Figs. 1 - 6. The most relevant figures, Fig. 1 depicts the radiation plate (3) and "organic PTC (4)" depicted with respect to a "pulp mat (1)" which is recited to have a thickness of 1 mm. By inspection and comparison, the thickness of each of the radiation plate (3) and

US Serial No. 10/519777  
Page 10 of 13

"organic PTC (4)" are in excess of 1 mm. This fact, and the fact that there are used copper electrode plates (10) which overlap a significant amount of the surface area of Katsuda's organic PCT (4) body, coupled with the fact that a continuous enrobing layer of his insulator (11) material encases said copper electrode plates (10) and organic PCT (4) body would lead a skilled artisan to expect Katsuda's radiation plate (3) to be inflexible.

With respect to the applicant's present claim 13, the applicant points out that claim 13 depends from claim 1 which is believed to be allowable.

With respect to the Examiner's rejection of claims 19 – 26, the applicant points out that a review of the Katsuda disclosure supports their position that the Katsuda device is a device which continuously operates once energized. Katsuda notes this technical feature in several places, e.g., column 5, lines 6-11; column 6, lines 58-64. Katsuda does not then disclose nor does he appear to contemplate the use of an intermittent control means whereby user switchable time periods or time intervals can be set. The applicant disagrees with and traverse's the Examiner's position that such would be trivial design choices in light of Katsuda's device as the Examiner has failed to provide any further reference or document which discloses this feature, and/or reasoning why a skilled artisan would have any motivation to alter the Katsuda device in order to provide intermittent operation. Indeed, it is suggested that Katsuda's "Test Example 1" would suggest that in order to provide the insecticidal benefit lauded by Katsuda, it would appear essential that Katsuda's device operate both continuously, and within a limited temperature range of 90°C - 140°C in order to provide sustained performance against mosquitoes. (See Katsuda, col. 6, lines 57 – 62.) Any modification as suggested by the Examiner would appear only to detract from the Katsuda device, as intermittent heating would likely result in insufficient delivery of Katsuda's limited list of insecticides to an ambient environment. As such, it can be stated that Katsuda then "teaches away" from intermittent heating of his organic PTC and therefore cannot be used as a basis for the Examiner's rejection of claims 19 – 26.

US Serial No. 10/519777  
Page 11 of 13

In contrast to Katsuda's teaching concerning continuous heating, as the present applicants point out in their specification, they have surprisingly and advantageously discovered that their use of the presently claimed resistive material in conjunction with the use of their flexible film heater "... displays a very rapid thermal response on energisation. The time required for the resistive material (22) to reach an operating temperature of approximately 70 degrees Celsius is in the order of one to two seconds. In addition the cooling time of the film is equally rapid. Consequently, the thin film heater 7 is able to deliver a precise quantity of heat energy to the porous element 6 which allows for precise volatilization of the fragrance 14." Nowhere does Katsuda suggest, much less teach, that his device may provide such rapid heating and rapid cooling. Rather, it can be fairly stated that the opposite is strongly inferred as a skilled artisan, reading Katsuda would have no expectation that short heating cycles would be effective in delivering Katsuda's pyrethroids and that Katsuda's device would need to operate both continuously in order to attain his temperature range of 90°C - 140°C in order to provide sustained performance against mosquitoes (".. the insecticide vaporizes with the elapse of time to sustain the strong effect of insecticide and insect-proof over a wide range for a long period." See Katsuda, col. 4, lines 27 – 32.) Thus, Katsuda's device would appear to be ineffective or indeed, may be inoperable in providing any benefit unless operated for a long period of time as Katsuda clearly teaches. Such rapid heating/cooling characteristics attainable with the preferred embodiments of present applicant's invention are not taught or not suggested by Katsuda.

In view of the foregoing, reconsideration of the propriety of the Katsuda reference against the presented claims, and reconsideration of the propriety of and the withdrawal of that document from further consideration is requested.

An early indication of the allowability of the present application and claims, by issuance of a *Notice of Allowance and Issue Fee* due is respectfully requested.

US Serial No. 10/519777  
Page 12 of 13

Should the Examiner in charge of this application believe that telephonic communication with the undersigned would meaningfully advance the prosecution of this application, they are invited to call the undersigned at their earliest convenience.

**PETITION FOR A TWO-MONTH EXTENSION OF TIME**

The applicants respectfully petition for a two-month extension of time in order to permit for the timely entry of this response. The Commissioner is hereby authorized to charge the fee to Deposit Account No. 14-1263 with respect to this petition.

**CONDITIONAL AUTHORIZATION FOR FEES**

Should any further fee be required by the Commissioner in order to permit the timely entry of this paper, the Commissioner is authorized to charge any such fee to Deposit Account No. 14-1263.

Respectfully Submitted;

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07. July, 2006

Date:

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US Serial No. 10/519777  
Page 13 of 13

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